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| 10/083,145 | 02/27/2002 | Yutaka Ozawa | 111773 | 6602 |
| 25944 | 7590 | 01/24/2006 | EXAMINER | |
| OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320 | | | SHAPIRO, LEONID | |
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| | | 2677 | | |
| DATE MAILED: 01/24/2006 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/083,145 | OZAWA, YUTAKA | |
| | Examiner | Art Unit | |
| | Leonid Shapiro | 2677 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 03 November 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-13 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 7, 10, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Rader (US Patent No. 5,867, 140).

As to claim 1, Rader teaches a method of driving a plurality of display elements which are arranged in a matrix (See Col. 2, Lines 33-42), and which constitute a region to make each display element display in the region, a gray level that the display element should display through at least one frame period of plurality of frame periods, by using a plurality of scanning lines for supplying a scanning signal that selects the display element and a plurality of data lines for supplying a data signal that specifies the gray level (See Fig. 3, item 303, Col. 2, Lines 31-42) , the method comprising:

a partial display mode including (See Fig.3, item 305):

a first supplying step of supplying the scanning signals to certain scanning lines of the plurality of scanning lines, the certain scanning lines corresponding to display elements included in a certain part of the region for displaying gray level (See Fig. 3, item 305, Col. 2, Lines 22-30), the first step including supplying data signal that specifies the gray level to the plurality of data lines corresponding to the display elements included in the certain part of the region (See Fig. 3, item 305, Col. 5, Lines 19-27); a second supplying step of supplying the scanning signal to both the certain

scanning lines (See Fig. 3, item 305, Col. 2, Lines 22-30) and other scanning lines other than the certain scanning lines of the plurality of scanning lines, the other scanning lines corresponding to display elements included in the other part of the region for not displaying the gray level other than certain part of the region (See Fig. 3, item 303, Col. 2, Lines 22-30), (See Fig. 4, items 313, 200, Col. 7, Lines 2-7 and Lines 26-61) (applying AC driving to all pixels) the second step including:

supplying data signal that specifies the gray level to the plurality of data lines corresponding to the display elements included in the certain part of the region (See Fig. 3, item 305, Col. 5, Lines 19-27), and

supplying a non-display signal that specifies a non-display voltage level to the plurality of data lines corresponding to the display elements included in the other part of the region (See Fig. 3, item 303, Col. 5, Lines 35-39).

As to claim 10, Rader teaches an electronic apparatus (See Fig. 2, item 200, Col. 1, Lines 6-8) in which, to display a gray level to be displayed through at least one frame period of a plurality of frame periods specified by image data, a plurality of scanning lines that supply scanning signals to a region comprising a plurality of display elements arranged in a matrix and a plurality of data lines that supply data signals to the region are used to drive the plurality of display elements, thereby displaying the gray level, the scanning signals selecting the plurality of display elements, and the data signals specifying gray levels to be displayed by the plurality of display elements (See Fig. 3, item 303, Col. 2, Lines 31-42), the electronic apparatus comprising:

an input circuit that inputs information to specify the image data (See Fig. 3, items 318, 312, from Col. 3, Line 64 to Col. 4, Line 5);

a production circuit that produces the image data according to the information inputted from the input circuit (See Fig. 3, items 312, 304, Col. 3, Lines 10-20); and

a display circuit that displays the image data produced by the production circuit (See Fig. 3, items 311-313, Col. 3, Lines 53-63), the display circuit supplying:

the scanning signals to certain scanning lines of the plurality of scanning lines, the certain scanning lines corresponding to display elements included in a certain part of the region for displaying gray level (See Fig. 3, item 305, Col. 2, Lines 22-30), the data signal specifying the gray level to the plurality of data lines corresponding to the display elements included in the certain part of the region (See Fig. 3, item 305, Col. 5, Lines 19-27);

the scanning signal to both the certain scanning lines (See Fig. 3, item 305, Col. 2, Lines 22-30) and other scanning lines other than the certain scanning lines of the plurality of scanning lines, the other scanning lines corresponding to display elements included in the other part of the region for not displaying the gray level other than certain part of the region, to make the gray level undisplplied (See Fig. 3, item 303, Col. 2, Lines 22-30), (See Fig. 4, items 313, 200, Col. 7, Lines 2-7 and Lines 26-61) (applying AC driving to all pixels), and the data signal that specifies the gray level to the plurality of data lines corresponding to the display elements included in the certain part of the region (See Fig. 3, item 305, Col. 5, Lines 19-27), and including supplying a non-display

signal that specifies a non-display voltage level to the plurality of data lines corresponding to the display elements included in the other than the certain part of the region (See Fig. 3, item 303, Col. 5, Lines 35-39).

As to claims 2-3, 7, Rader teaches the first supplying step (See Figs. 3, items 305 Col. 2, Lines 22-30) and the second supplying step (See Fig. 3, item 305, Col. 5, Lines 19-27) is performed in each or at least once in each of the frame periods.

As to claim 13, Rader teaches during the first supplying step, a scanning inhibition signal that prohibits supply of the scanning signal is supplied to the other scanning lines (See Fig. 4, item 420, Col. 5, Lines 28-39).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-6, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rader as applied to claims 3 and 7 above, and further in view of Wani et al. (US Patent No. 6,236,380 B1).

As to claim 4, Rader do not show each of the frame periods has a plurality of subfield periods each used for performance of one of the first and second supplying steps.

Wani et al. teaches each of the frames periods has a plurality of subfield periods each used for performance of one of the first and second supplying steps (See Fig. 2, items SCN1-SCN500, Col. 2, Lines 10-16).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teaching of Wani et al. into Rader system in order to include a whole scanning and a partial scanning subfield (See Col. 2, Lines 9-10 in the Wani et al. reference).

As to claims 5-6, Rader does not show the second supplying step (second supplying step is equivalent to full scanning) is performed in one subfield of the plurality of subfields included in the plurality of frame periods, and the first supplying step (first supplying step is equivalent to partial scanning) is performed in subfield other the one subfield.

Wani et al. teaches the second supplying step (second supplying step is equivalent to full scanning) is performed in one subfield of the plurality of subfields included in the plurality of frame periods, and the first supplying step (first supplying step is equivalent to partial scanning) is performed in subfield other the one subfield (See Figs. 1-2, Col. 3, Lines 27-38).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teaching of Wani et al. into Rader system in order to include a whole scanning and a partial scanning subfield (See Col. 2, Lines 9-10 in the Wani et al. reference).

As to claim 8, Rader do not show a period of second supplying step is longer than period of the first supplying step.

Wani et al. teaches a period of second supplying step (second supplying step is equivalent to full scanning) is longer than period of the first supplying step (first supplying step is equivalent to partial scanning) (See Figs. 1-2, Col. 3, Lines 34-48).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teaching of Wani et al. into Rader system in order to include a whole scanning and a partial scanning subfield (See Col. 2, Lines 9-10 in the Wani et al. reference).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wani et al. and Rader as applied to claim 1 above, and further in view of Burgan et al. (US Patent No. 5, 805,121).

Wani et al. and Rader do not show a step of applying the data signal making the display element undriven to the data line corresponding thereto when supplying the scanning signals to the other scanning lines.

Burgan et al. teaches a step of applying the data signal making the display element undriven to the data line corresponding thereto when supplying the scanning signals to the other scanning lines (See Fig. 4, BP2-FP3, Col. 4, Lines 43-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement the step as shown by Burgan et al. in Wani et al. and Rader apparatus in order to apply an improved and lower power technique for establishing an

off or standby mode for pixels in an LCD (See Col. 1, Lines 34-40 in the Burgan et al. reference).

4. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rader as applied to claims 1 and 10 above, and further in view of Taniguchi (US Patent No. 4,824,212).

Rader do not disclose the non-display signal is an undriven voltage so that the display elements display white in a normally white mode or black in a normally black mode.

Taniguchi teaches the non-display signal is an undriven voltage so that the display elements black in a normally black mode (See Fig. 1, item 11a, Col. 5, Lines 44-47).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate teaching of Taniguchi into Inoue et al. and Rader apparatus in order to do not display characters in non-display region (See Col. 2, Lines 24-29 in the Taniguchi reference).

Response to Arguments

5. Applicant's arguments with respect to claims 4-6, 8-9, 11-12 have been considered but are moot in view of the new ground(s) of rejection.

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6. Applicant's arguments with respect to claims 1-3, 7,10 have been fully considered but they are not persuasive:

On page 6, last paragraph of the Remarks, Applicant's stated that Inoue is disqualified as prior art. Examiner agreed with this statement. On page 7, 2nd paragraph of Remarks, Applicant's stated that because of that the rejection of claims 1-3, 7,10 should be withdrawn. However, new rejection is based on already familiar Rader prior art (arguments were presented in Office Action filed on 10/04/05, See for example pages 10-11) without introducing any references.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Telephone inquire

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid Shapiro whose telephone number is 571-272-7683. The examiner can normally be reached on 8 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on 571-272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LS
01.18.05

AMR A. AWAD
PRIMARY EXAMINER

